

Attorney Docket No.: **DMBC-0003**
Inventors: **Harry C. Morris**
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REMARKS

Claims 1 and 6-8 are pending in the instant application.

Claims 1 and 6-8 have been rejected. Claims 1 and 8 have been amended. No new matter has been added. Reconsideration is respectfully requested in light of these amendments and the following remarks.

I. Rejection of Claims Under 35 U.S.C. §102

Claim 8 is rejected under 35 U.S.C. §102(a) as being anticipated by Calnan (U.S. Patent 3,490,314). which discloses electrolessly plating a nickel phosphorous deposit on the entire surface of carbon steel strips which are made into blades.

Claims 1, 6 and 8 are further rejected under 35 U.S.C. §102(b) as being anticipated by Sanpei (an abstract of Japanese publication 04-070343) or Kaneko (EP 0 869 200 A2). Sanpei is suggested to disclose a process of coating a coiled steel blade with a coating including electroless nickel (Figures 1-4). Kaneko (EP 0 869 200 A2) is suggested to disclose a process of coating a coiled steel blade with a coating including electroless nickel (e.g. see page 2, lines 25-30). In addition, Kaneko (EP 0 869 200 A2) is suggested to disclose a process of electrolessly

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plating nickel containing compositions on doctor blades which are spirally wound.

Claims 1, 6 and 8 are rejected under 35 U.S.C. §102(a) as being anticipated by Kaneko (U.S. Patent 6,027,765), which is suggested to disclose a process of coating a coiled steel blade with a coating including electroless nickel (col.1, lines 29-47). Kaneko (U.S. Patent 6,027,765) is further suggested to disclose a process of electrolessly plating nickel containing compositions on doctor blades which are spirally wound.

In an earnest attempt to clarify the invention and present the claims in form for allowance, claims 1 and 8 have been amended to recite that the protective layer *consists essentially of* electroless nickel. Support for this amendment is found throughout the specification and especially at page 3, line 28. None of the prior art recited teach that the protective layer *consists essentially of* electroless nickel.

In contrast to the present invention, and as acknowledged by the Examiner, all of the recited art describe coatings which are alloys or combinations of materials. For instance, Calnan (U.S. Patent 3,490,314) discloses a process for producing a razor blade with a cutting edge on a nickel-phosphorous or cobalt-phosphorous

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deposit. There is no teaching of a protective layer which consists essentially of electroless nickel.

The Sanpei abstract (Japanese publication 04-070343) discloses a doctor blade which is electrolessly coated with ceramics coating liquid. A combined ceramic-coated and nickel plated layer may be formed on the blade, see page 1, designated as "Constitution".

Kaneko (EP 0 869 200 A2), discloses a continuous ceramic composite plating method for long doctor base materials. In contrast to the Examiner's interpretation, Kaneko (EP 0 869 200 A2) at page 2, lines 19-47 teaches that a method of providing abrasion resistance to the distal end portion of the doctor blade is to form a ceramic plating layer. The ceramic plating method is taught to suffer from the following problems (see page 2, lines 31-47): (1) spacers must be used which mark the unplated spacer portion and impairs the outer appearance of the product; (2) the material is rolled so that blade has a warp and abnormal weight loss is induced so that printing cannot be made satisfactorily; (3) The mass production of the doctor blade is labor intensive; (4) the consumption of chemicals is expensive.

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Similarly, Kaneko (U.S. Patent 6,027,765) discloses a continuous ceramic composite plating method for long doctor base materials. In contrast to the Examiner's interpretation, Kaneko (U.S. Patent 6,027,765) at column 1, teaches that a method of providing abrasion resistance to the distal end portion of the doctor blade is to form a ceramic plating layer. The ceramic plating method is taught to suffer from the following problems (see column 1, lines 47 through column 2 line 10): (1) spacers must be used which mark the unplated spacer portion and impairs the outer appearance of the product; (2) the material is rolled so that blade has a warp and abnormal weight loss is induced so that printing cannot be made satisfactorily; (3) the mass production of the doctor blade is labor intensive; and (4) the consumption of chemicals is expensive.

Further, Applicant's method makes clear that the protective layer consists essentially of electroless nickel, and further that the protective layer is applied to all areas of the blade-shaped substrate and that the blade-shaped substrate base is carbon strip steel. None of the prior art of record teach a carbon strip steel base which is entirely protected with a layer

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consisting essentially of electroless nickel. Thus, none of the recited art anticipates the invention.

In accordance with MPEP § 2121.01, the test in determining that quantum of prior art disclosure which is necessary to declare an applicant's invention "not novel" or "anticipated" within section 102, is whether a reference contains an "enabling disclosure". *In re Hoeksema*, 399 F.2d 269(CCPA 1968). A reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention. The recited art does not teach or suggest the limitations of claims, as amended, as such it can not be held to anticipate the present invention.

Withdrawal of this rejection is respectfully requested.

II. Rejection of Claims Under 35 U.S.C. §103

A. Rejection of Claim 7

The Examiner has rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over Sanpei (an abstract of Japanese publication 04-0700343), Kaneko (EP 0 869 200 A2) or Kaneko (U.S. Patent 6,027,765) in view of Nomura (U.S. Patent 6,059,881).

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The Examiner suggests that the Sanpei discloses coating a coiled steel blade with a coating including electroless nickel. Kaneko (EP 0 869 200 A2) is suggested to disclose a prior art process of coating a coiled steel blade with a coating including electroless nickel. In addition Kaneko (EP 0 869 200 A2) is suggested to discloses an improved process of electrolessly plating nickel containing compositions on doctor blades which are spirally wound (see claims 1-7). Kaneko (U.S. Patent 6,027,765) is further suggested to disclose a prior art process of coating a coiled steel blade with a coating including electroless nickel. In addition, Kaneko (U.S. Patent 6,027,765) is suggested to disclose an improved process of electrolessly plating nickel containing compositions on doctor blades which are spirally wound. Nomura is suggested to show that blades are made in beveled or square edge shapes. Applicant respectfully disagrees.

In an earnest attempt to clarify the present invention claims 1 and 8 have been amended to recite that the protective layer consists essentially of electroless nickel, as supported throughout the specification and especially at page 3, line 28.

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To establish a *prima facie* case of obviousness under 35 U.S.C. 103(a) three basic criteria must be met. MPEP § 2143. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art must teach or suggest all of the claim limitations.

As set forth above, none of the recited art teaches or suggests a friction resistant blade comprising a blade shaped substrate base with an edge and a protective layer applied to all areas of the blade shaped substrate wherein the protective layer consists essentially of electroless nickel.

Further, in the present invention the entire blade-shaped substrate is coated with the electroless nickel and coiled. There is no teaching, suggestion or motivation provided by the recited art to combine the references as suggested by the Examiner. Even if the references were combined they would not yield the present invention.

As discussed above, Sanpei (Japanese publication 04-070343) discloses a doctor blade which is coated with ceramics coating

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liquid. There is no teaching or suggestion to use a protective layer consisting essentially of electroless nickel.

As discussed further above, Kaneko (EP 0 869 200 A2) and Kaneko (U.S. Patent 6,027,765), disclose a continuous ceramic composite plating method for long doctor base materials. In contrast to the Examiner's interpretation, Kaneko (EP 0 869 200 A2) and Kaneko (U.S. Patent 6,027,765), teach that abrasion resistance is provided to the distal end portion of the doctor blade by the formation a ceramic plating layer. In contrast to the Applicants' invention, the teachings of Kaneko (EP 0 869 200 A2) and Kaneko (U.S. Patent 6,027,765) recited by the Examiner teach away from the present invention in that the coating of an entire blade is expensive and cost prohibitive.

Nomura, (U.S. Patent 6,059,881) discloses a coater blade and backing roll combination comprising an elastic steel blade with a ceramic coating or a ion plated alloy. Nomura does not provide any teachings or suggestion that a protective layer consisting essentially of electroless nickel would be particularly desired.

Furthermore, the electroless nickel coating of the present invention is not a simple substitute for the coatings taught by the prior art. The electroless nickel of the present invention

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does not require electrical energy to adhere to the substrate, the electroless nickel better conforms to the blade-substrate shaped base, has a better friction resistance and increased hardness over the prior art coatings.

Applicant respectfully submits that the recited art fails to teach or suggest all of the limitations of the present invention.

Withdrawal of this rejection is respectfully requested.

B. Rejection of Claims 1 and 6-8

Claims 1 and 6-8 are rejected further rejected under 35 U.S.C. §103(a) as being unpatentable over Calnan (U.S. Patent 3,490,314) in view of Sanpei abstract (Japanese publication 04-070343) or Kaneko (EP 0 869 200 A2). Calnan is suggested to disclose electrolessly plating nickel on the entire surface of carbon steel strips. Calnan is further suggested to disclose that the cutting edge may be beveled. Sanpei and Kaneko (EP 0 869 200 A2) are suggested to show that when plating continuous strips for blades, it is obvious to coil the strips. In view of Sanpei and Kaneko (EP 0 869 200 A2), it is suggested to have been obvious to one of ordinary skill in the art at the time the invention was made to coil the continuous steel strip of Calnan

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because Sanpei shows that this makes the strip fit more easily in the electroless plating bath container and Kaneko (EP 0 869 200 A2) shows that coiling can take up the strip on reels to facilitate continuous production.

Applicant respectfully disagrees.

As set forth fully above, Calnan (U.S. Patent 3,490,314) discloses a process for producing a razor blade with a cutting edge on a nickel-phosphorous or cobalt-phosphorous deposit. There is no teaching of a protective layer which consists essentially of electroless nickel. Further, as discussed previously neither Sanpei nor Kaneko (EP 0 869 200 A2) supply the necessary teaching or suggestion to derive a friction resistant blade with a protective layer which consists essentially of electroless nickel as required by the claim limitations of the present invention.

Applicant respectfully submits that the recited art fails to teach or suggest all of the limitations of the present invention. Further there is no motivation provided by the teachings to produce a protective layer which consists essentially of electroless nickel.

Withdrawal of this rejection is respectfully requested.

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III. Conclusion

Applicant believes that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,

Jane Massey Licata

Jane Massey Licata
Registration No. 32,257

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Licata & Tyrrell P.C.
66 E. Main Street
Marlton, New Jersey 08053

(856) 810-1515